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**TRANSMITTAL LETTER  
(General - Patent Pending)**Docket No.  
FRK-086

In Re Application Of:

Mosing, Donald E.

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/027,502	27 November 2001	Daniel P. Stodola	021897	3679	1988

Title:

Slip Groove Gripping Die

**COMMISSIONER FOR PATENTS:**

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**Return Postcard;****Certificate of Express Mailing (EV 516731580 US);****Amended Brief to Board of Patent Appeals and Interferences Under 37 CFR 41.37;****Claims Appendix; and****Evidence Appendix.**

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Dated: Jul 18, 07

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Applicant(s): Mosing, Donald E.

Docket No.

FRK-086

Application No.  
10/027,502Filing Date  
27 November 2001Examiner  
Daniel P. StodolaCustomer No.  
021897Group Art Unit  
3679

Invention:

**Slip Groove Gripping Die**

I hereby certify that the following correspondence:

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PRACTITIONER'S DOCKET NO.: FRANKS-086

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: MOSING, DONALD E. §  
APPLICATION No.: 10/027,502 § GROUP No.: 3679  
FILED: NOVEMBER 27, 2001 § EXAMINER: DANIEL P. STODOLA  
§  
FOR: SLIP GROOVE GRIPPING DIE §

**AMENDED BRIEF TO BOARD OF PATENT APPEALS AND INTERFERENCES UNDER 37 CFR 41.37**

**HON. COMMISSIONER OF PATENTS  
P.O. Box 1450  
ALEXANDRIA, VA 22313-1450**

Dear Sir:

Responsive to the Notification of Non-Compliant Brief (37 CFR 41.37) dated April 18, 2007, please enter this Amended Brief.

The Notice of Appeal in the above-identified application to the Board was filed on December 15, 2006, appealing the Final Rejection of claims 1-10, 12-16, 19 and 20, dated September 15, 2006. Applicant has attached hereto the Notice of Appeal (PTO/513/31), and the fee set forth in 37 CFR 41.20 (b) (1).

Although Applicant believes that no additional fees are required, the Commissioner is hereby authorized to deduct such additional fees, as might be required, from Deposit Account Number 13-2166.

**1. Real Party In Interest**

The real party in interest is Frank's Casing Crew and Rental Tools, Inc.

**2. Related Appeals and late references**

None

**3. Status of Claims**

The following set of claims 1-10, 12-16, 19 and 20, were all finally rejected and are

currently on appeal.

Claims 1-10, 12-16, 19, and 20 are rejected.

Claims 11 and 17-18 have been cancelled.

#### **4. Status of Amendments**

All amendments to the claims have already been entered by the Examiner. No amendments are currently pending.

#### **5. Summary of Claimed Subject Matter of Independent Claims 1, 5, 12, 19 and 20.**

Each of the Independent Claims 1, 5, 12, 19 and 20 calls for a die insert for a slip having a front face and a back face and for the two faces to be generally parallel, and for the back face to be textured, or to have surface depressions. The die insert for each of the Independent claims 1, 5, 12, 19 and 20 is identified with the numeral 1 in FIG. 1 and by the numeral 4 in FIG.'s 5, 6, 7 and 8, and is described in the specification on page 7, lines 1-15. The die insert 1 illustrated in FIG. 1 resides in a slip (labeled as "SLIP" in FIG. 1), also described on page 7, lines 1-15 of the specification. The die insert 1, illustrated in FIG. 1 has a front face 2 and a back face 3. The front face 2 has teeth for engaging a pipe and the back surface 3 is roughed up or textured to prevent or lessen movement between the die insert 1 and the slip, as described on page 7, lines 8-10 of the specification. The faces 2 and 3 are parallel to each other, as presented in claims 1, 5 and 12, as originally filed in this application. None of the claims 1-10, 12-16, 19 and 20 under appeal calls for means plus function or step plus function as contemplated by 35 USC 112, sixth paragraph.

Claims 1 and 5, as originally filed with the application on November 27, 2001 read as follows:

1. A die insert for use in die insert confining grooves in slips for use in pipe string handling apparatus, the die insert comprising:
  - a) said die insert blank having a front face with pipe gripping teeth and a generally parallel back face;
  - b) textured relief formed on the surface of the back face, for forming and engaging impressions in the opposing surface of the confining slip, when forced against the

opposing surface, to add skid resistance between the die insert and the opposing surface.

5. A die insert for use in pipe string handling apparatus, having generally parallel first and second faces on opposite sides, said die insert comprising:

- a) said die insert with a first of the faces textured with projecting teeth for gripping pipe surfaces; and
- b) the second face textured with surface depressions to reduce the surface area in contact with a mating surface of die insert carrying slips such that more than a selected normal loading of the die insert will coin an impression of the textured surface of the die insert into the mating surface of the related die insert carrying groove, for the purpose of reducing the tendency of the die insert to slide in the groove when the die insert is carrying a substantial payload.

Thus, each of Claims 1 and 5, as originally filed, called for the first and second faces of the die insert to be generally parallel, and thus formed part of the original disclosures. The drawings of FIG. 1 and FIG. 5 also show the generally parallel nature of the two faces 2 and 3 (FIG. 1) and the two faces 2 and 5 (FIG. 5).

Claim 1, as originally filed, called for the textured relief on the surface of the back face and Claim 5, as originally filed, called for the back face to have surface depressions.

Pages 7-9 of the specification are devoted, almost in their entirety, to the various methods and apparatus for applying texture and/or depressions to the back side of the die insert.

## **6. Grounds of Rejection To Be Reviewed On Appeal**

a) Claims 1, 3-5, 8-10, 12, 15-16, 19 and 20, have been rejected under 35 USC 102 (b) as being anticipated by U.S. Patent No. 4,678,209 to Guice (the '209 patent). Please see Exhibit A.

b) Claims 2, 6, 7, 13 and 14 have been rejected under 35 USC 103 (a) as being unpatentable over U.S. Patent No. 4,678,209 to Guice (the '209 patent) in view of U.S. Patent

No. 5,971,086 to Bee, et al (the '086 patent). Please see Exhibit B.

## **7. Argument**

### **Claim Rejections – 35USC § 102**

A favorable consideration is respectfully requested for Claims 1, 3-5, 8-10, 12, 15, 16, 19, and 20, said claims having been rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 4,678,209 to Guice. These rejections are respectfully traversed.

Applicant's die inserts and slips are used to grip pipe for such operations as, but not limited to, drilling, running and tripping tubulars, making up and breaking out tubulars, and handling tubulars around the rig area. Die inserts are used because they are less expensive to change out and a particular set of slips can be used for various size tubulars by just changing the die inserts. Traditionally die inserts had a smooth back face which contacted the smooth face of the slip. These die inserts were bolted to the slips or were inserted in a groove or otherwise confined or attached to the slip or die inserts. The Applicant has discovered that, by adding some type of texture or depression to the back face of the die insert, the die insert will transfer load more uniformly across the surface of the die insert contacting the slip. In turn, the load on the slips is distributed more evenly; thus, substantially lowering the possibility that any parts of the die inserts, slips, or pipe handling equipment will fail due to entire loads being supported at just a few points.

Applicant respectfully submits that the Guice '209 reference is non-analogous art. The applicant claims a die insert for slips in a pipe handling apparatus. The Guice reference, being directed to a casing hanger, does not even disclose or suggest using die inserts. The die inserts in the current application are used to grip the pipe, whereas the slips themselves, not the dies, in the Guice reference are used to grip the pipe. The purpose of using these die inserts is to make sure that the pipe is gripped in such a way that no portion of the slip contacts the pipe before another portion of the slip. Another purpose of the die insert is to be replaceable in case some of the teeth break off. For example, if the teeth, 32, in the Guice '209 patent are broken off, the entire slip has to be replaced. By using a plurality of die inserts, a die insert can be damaged and replaced by another die insert for much less time and expense. For this technology to work properly, the die inserts must all contact the pipe at the same time. In sharp contrast from the present application, the Guice reference discloses a slip

without the use of die inserts. Instead, the Guice reference discloses a slip in which one face of the slip is vertical, to ensure that most or all of the teeth are in contact with the tubular (see Guice, Column 4, Lines 19-21), and the other face of the slip is tapered to slide down the tapered slip bowl while the vertical face continues its vertical orientation (see FIG. 5). The face gripping the pipe will generally remain vertical to grip all portions of the pipe at the same time. Because the back face of the slip must be tapered, it cannot be parallel to the front face of the slip.

Additionally, the Examiner argues that the faces of Guice ('209) are generally parallel as evidenced by the illustration in Fig. 2. With all due respect, the Examiner erroneously interpreted Fig. 2 of the Guice reference. Although the faces appear to be parallel in the view of Fig. 2, it cannot be determined from that top view whether the faces are parallel (meaning extending in the same direction and never converging or diverging). Only the top edges of the faces can be seen in Fig. 2 and therefore it cannot be determined whether they are parallel. In fact, they are not parallel. This can be seen in Figs. 3, 4 and 5 of the Guice reference. These figures show the length of the front and back faces and show that the faces are, in fact, not parallel (extending in the same direction and never converging or diverging). Included as Exhibit C are blown up versions of Guice's FIG. 3 and FIG. 4. We have extended the faces in both FIG. 3 and FIG. 4 (see Exhibit C, 100, 101, 102, 103, and 104) so the Board can clearly see that the lines converge. Since the lines extended from the faces converge, the faces are not parallel.

Additionally, the invention, as disclosed in the Guice reference, would not function properly if the faces were parallel because, as can be seen in FIG. 1 of the Guice reference, the slip 20 must grip the pipe in a "face-to-face engaging relationship." Guice, Column 4, lines 19-21. In order to accomplish the slip engaging the pipe face-to-face and also sliding up and down the tapered bowl (FIG.1), the faces cannot be parallel (See FIG. 5).

In sharp contrast, each and every claim of the current application requires that the front and back faces of the die inserts be substantially **parallel**. Therefore, it is respectfully submitted that Claims 1, 3-5, 8-10, 12, 15, and 16 are patentable over the cited Guice reference and that the rejection should be withdrawn.

#### **Claim Rejections-35 USC § 103**

Reconsideration is respectfully requested for Claims 2, 6, 7, 13, and 14, said claims having been rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 4,678,209 to Guice in view of U.S. Patent No. 5,971,086 to Bee et al. Applicant respectfully traverses this rejection. The reference to Bee et al does not add anything to the Guice reference to support a rejection. Bee simply discloses adding a coating to the teeth 11, which are on the front face of the slip. There is nothing in the Bee reference which discloses roughing the back face of the die. Claims 2, 6, 7, 13, and 14 are thereby submitted to be patentable for the reasons set forth above.

**8. Claims Appendix**

**9. Evidence Appendix**

- A. US Patent No. 4,678,209 to Guice.
- B. US Patent No. 5,971,086 to Bee, et al.
- C. Blown-Up FIG.'s 3 and 4 of Ex. A.

**10. Related Proceedings Appendix**

None

**SUMMARY**

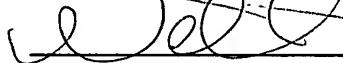
The cited art does not disclose, teach or even suggest a die insert having parallel first and second faces, wherein the first face has teeth for gripping pipe surfaces and the second face has a surface which is textured, or which contains depressions to add skid resistance between the second face of the die insert and the slip, as called for in each of Claims 1-10, 13-16, 19 and 20.

It is therefore respectfully submitted that Claims 1-10, 12-16, 19 and 20 are patentably distinct over the art of record. The Applicant courteously solicits the allowance of Claims 1-10, 12-16, 19 and 20.

7/18/07

Date

Respectfully submitted,

  
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PRACTITIONER'S DOCKET NO.: FRANKS-086  
THE UNITED STATES PATENT AND TRADEMARK OFFICE  
IN RE APPLICATION OF: MOSING, DONALD E. §  
APPLICATION No.: 10/027,502 § GROUP No.: 3679  
FILED: NOVEMBER 27, 2001 § EXAMINER: DANIEL P. STODOLA  
§  
FOR: SLIP GROOVE GRIPPING DIE §

**BRIEF TO BOARD OF PATENT APPEALS AND INTERFERENCES UNDER 37 CFR 41.37**

**HON. COMMISSIONER OF PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**8. CLAIMS APPENDIX**  
**CLAIMS 1-10,12-16, 19 AND 20 ALL REJECTED AND CURRENTLY ON APPEAL**

**APPEAL BRIEF TO BOARD OF PATENT APPEALS  
AND INTERFERENCES UNDER 37 CFR 41.37**

**CURRENT STATUS OF CLAIMS**

Please find the current status of the claims, as of the filing of this amendment paper, as follows:

1. (Rejected) A die insert for slips for use in a pipe handling apparatus, the die insert comprising:
  - a) a front face with pipe gripping teeth and a back face being generally parallel to said front face; and
  - b) said back face including textured relief for engaging the slip.
2. (Rejected) The die insert according to Claim 1 wherein said textured relief comprises a plurality of generally transverse relief patterns, the relief representing surface depressions of more than one one-thousandth inch.
3. (Rejected) The die insert according to Claim 1 wherein said texture relief is achieved by a plurality of generally transverse scribe lines.
4. (Rejected) The die insert according to Claim 1 wherein said texture relief is

achieved by acid etching of the surface of the back face.

5. (Rejected) A die insert for use in a pipe handling apparatus having first and second faces, said first and second faces being generally parallel to each other, said die insert comprising;

a) said first faces textured with projecting teeth for gripping pipe surfaces; and

b) the second face textured with surface depressions forming indicia to reduce the surface area in contact with a mating surface of die insert carrying slips such that more than a selected normal loading of the die insert will coin an impression of the indicia of the textured surface of the die insert into the mating surface of the related die insert carrying slip, for the purpose of reducing the tendency of the die insert to slide in on the slip when the die insert is carrying a substantial payload.

6. (Rejected) The die insert according to Claim 5 wherein said textured surface depressions are more than one one-thousandth of an inch deep.

7. (Rejected) The die insert according to Claim 5 wherein said textured surface depressions comprise a plurality of generally transverse relief patterns, the relief representing a surface depression of more than one thousandth inch.

8. (Rejected) The die insert according to Claim 5 wherein said textured surface depressions are achieved by a plurality of generally transverse scribe lines.

9. (Rejected) The die insert according to Claim 5 wherein said textured surface depressions are achieved by acid etching of the insert.

10. (Rejected) The die insert according to claim 5 wherein said textured surface on said second face forming indicia comprises a logo or drawing.

11. Canceled

12. (Rejected) A die insert for use in a pipe handling apparatus, having first and second faces, said first and second faces being generally parallel with respect of each other, said die insert comprising;

a) said first faces textured with projecting teeth for gripping pipe surfaces; and

b) the second face textured with surface depressions created to displace metal upward in the vicinity of the depression to present a small elevated surface accumulation of such limited effective collective load bearing area that the raised metal will be imbedded into a surface of insert supporting surfaces of a die carrying slip, when subjected to a preselected amount of force substantially perpendicular to said second face, to reduce the tendency for the insert to slide on the insert support surfaces and create indicia on the insert support surfaces.

13. (Rejected) The die insert according to Claim 12 wherein said textured surface depressions are more than one one-thousandth of an inch deep.

14. (Rejected) The die insert according to Claim 12 wherein said textured surface depressions

comprise a plurality of generally transverse relief patterns, the relief representing a surface depression of more than one thousandths inch.

15. (Rejected) The die insert according to Claim 12 wherein said textured surface depressions are achieved by a plurality of generally transverse scribe lines.
16. (Rejected) The die insert according to Claim 12 wherein said textured surface depressions are achieved by acid etching of the insert.

17-18. Canceled.

19. (Rejected) A die insert for use in a slip for use in a pipe handling apparatus, the die insert comprising:

a front face with a pipe gripping surface;

a back face, said back face being generally parallel to said front face, wherein said back face contacts said slip; and

substantially uniform textured relief formed on a surface of the back face for forming and engaging impressions in the opposing surface of the slip when forced against the opposing surface to add skid resistance between the die insert and the opposing surface.

20. (Rejected) A die insert for use in a pipe sting handling apparatus having first and second faces, said first and second faces being generally parallel to each other, said die insert comprising;

said first face being textured with projecting teeth for gripping pipe surfaces;

said second face having a surface area, wherein said surface area at least partially contacts a mating surface of a slip; and

the second face textured with surface depressions to reduce the surface area in contact with said mating surface of a slip such that the loading of the die insert will coin an impression of the of the textured surface of the die insert into the mating surface of the related slip, for the purpose of transferring the loading from the die insert to the slip.



PRACTITIONER'S DOCKET NO.: FRANKS-086

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: MOSING, DONALD E. §  
APPLICATION NO.: 10/027,502 § GROUP NO.: 3679  
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ALEXANDRIA, VA 22313-1450**

**9. EVIDENCE APPENDIX**

**APPEAL BRIEF TO BOARD OF PATENT APPEALS  
AND INTERFERENCES UNDER 37 CFR 41.37**

- A. US Patent No. 4,678,209 to Guice.
- B. US Patent No. 5,971,086 to Bee, et al.
- C. Blown-Up FIG.'s 3 and 4 of Ex. A.

**United States Patent [19]**  
**Guice**

[11] Patent Number: **4,678,209**  
[45] Date of Patent: **Jul. 7, 1987**

**[54] CASING HANGER**

- [75] Inventor: **Walter L. Guice, Houston, Tex.**  
[73] Assignee: **Vetco Offshore, Inc., Ventura, Calif.**  
[21] Appl. No.: **789,681**  
[22] Filed: **Oct. 21, 1985**  
[51] Int. Cl.<sup>4</sup> ..... **F16L 21/00**  
[52] U.S. Cl. ..... **285/144; 285/146;  
285/178; 285/350; 285/147; 277/188 R;  
175/423**  
[58] Field of Search ..... **285/144, 145, 146, 147,  
285/148, 178, 348, 419, 350, 391; 188/67;  
175/422 WS; 166/85; 277/188 R, 188 A, 165**  
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*Primary Examiner—Cornelius J. Husar*

*Assistant Examiner—Eric K. Nicholson  
Attorney, Agent, or Firm—Chilton, Alix & Van Kirk*

**[57] ABSTRACT**

An improved casing hanger for suspending a pipe string from a casing head at a well head employs a plurality of slip members having a series of teeth which are adapted for frictionally engaging the wedging surface of a slip bowl. The teeth have a profile which gradually tapers in accordance with the distance from a central portion of the slip member. The slip member is deformable from a first configuration wherein the edges of one surface of the slip member engage the pipe string while the central portion of the surface is spaced from the pipe string and the opposite surface of the slip member has a central portion which engages the slip bowl with the ends of the outer surface being spaced therefrom to a loaded configuration wherein the surfaces of the slip member engage the pipe string and the slip bowl along a series of substantially continuous arcuate paths. A deformable wall structure is also disposed adjacent the sealing element so that in the event that the compressive force exerted by the seal element exceeds a pre-established threshold value. The wall deforms to relieve the compressive force exerted by the sealing element.

**12 Claims, 7 Drawing Figures**

